DOCUMENT RESUME

ED 118 184 JC 760 110

AUTHOR Venneri, Rick
TITLE A Report to the Faculty; Student Assessment Academic Transfer.
INSTITUTION Seattle Community Coll., Washington.
PUB DATE Jan 76
NOTE 14p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage
DESCRIPTORS *Academic Ability; *Academic Achievement; *Achievement Tests; Cloze Procedure; Educational Assessment; Junior Colleges; *Junior College Students; Mathematics; Motivation; National Norms; Reading Ability; Standardized Tests; *Transfer Students; Writing Skills
IDENTIFIERS Seattle Central Community College

ABSTRACT

This student assessment project establishes an index of the level of educational preparation of on-campus day transfer students at Seattle Central Community College. Reading, writing, and arithmetic were chosen as indices of the level of academic preparation, and a self-report inventory was selected to measure academic motivation. Although participation in the study was voluntary, the 485 students tested in 30 different classes represented 56.9 percent of the enrolled students in those classes. By using cloze procedure, it was determined that 40 percent of the students were experiencing difficulty reading their required textbooks. Sixty-seven percent of their writing samples were judged to be unacceptable for college transfer, and competency in arithmetic as demonstrated by a subtest of the Comparative Guidance Placement Program, placed these students no better than the 45th percentile on a national norm. On the other hand, these same students appeared to be as motivated (on the basis of an Academic Motivation Scale) as other average community college students across the nation. Subsequent reports will follow this sample of 485 students through the academic year in order to identify possible relationships between the variables and performance. (Author/NHM)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED118184

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

A REPORT TO THE FACULTY

Student Assessment Academic Transfer

Prepared by

Dr. Rick Venneri
Educational Assessment Office

January, 1976

JC 760 110

Preface

An institution with as diverse a student population as Seattle Central Community College must continually re-examine its mission in light of student and faculty feedback. One of the major concerns of faculty has been the low level of educational preparation students often demonstrate in their classes.

Concerns range from problems regarding poor basic skills to lack of motivation and apathy. While the lack of motivation may be largely beyond the reach of our influence (having socio-psychological implications), poor educational preparation is not. In this area the college can make an impact by making available special developmental programs. Nevertheless, such programs in this time of reduced revenues must be approached with clear vision and careful planning. Central to such careful planning is reliable information.

On September 24, 1975, a research project was begun consistent with and supported in large part by the goals and the resources of the AIDP supplementary grant. The objective of this project is to gather baseline data regarding the level of educational preparation of SCCC students in academic transfer and to evaluate certain assessment tools as measures of students' basic skills and academic motivation. The project was conducted as a cooperative venture between Student Personnel Services, the Educational Development Office, and the Office of the President.

Dean Leroy Fails, Dr. Karen Spring and Dr. Ron Hamberg contributed professional time and energy above and beyond their normal institutional responsibilities. In particular, Dr. Hamberg provided technical counsel and coordinated the scoring and processing of the test data.

Selection of the Testing Instruments

Reading, writing and arithmetic were chosen as indices for the measurement of the level of academic preparation. It was assumed that competency in such basic skill areas is prerequisite to the student success in a college curriculum;

a self-report inventory was selected to measure academic motivation.

To assess students ability to do basic arithmetic operations, a sub-test of the Comparative Guidance Placement Program, published by the Educational Testing Service, was chosen. This mathematics test assumes one year of high school algebra. It is specifically designed for community college students and is one of the most widely used across the country. It has excellent test properties including national norms to which our particular student data could be referred. One half of the test is devoted entirely to basic arithmetic operations while the second half samples student knowle[illegible]f basic high school algebra. It was felt that whatever instrument was chosen it should contain a sufficient number of items to give a clear indication of the student's ability to do basic arithmetic. The CGP mathematics test "D" does.

In selecting an acceptable reading test many factors both practical and theoretical needed to be considered. For example, most reading tests are not written for an adult population nor is a grade level achievement score particularly meaningful for a thirty year old student. After reviewing many approaches to assessing students' reading ability, the one approach which seemed to make the most sense was to follow Cloze test procedure. Cloze procedures have several advantages over the use of standardized reading tests. For example, Cloze tests are based on the materials students will actually read. Thus a Cloze test in psychology measures the students ability to read his psychology textbook. Secondly, this measure of "ability" is a measure of competency not just performance. As David McCarthy, a reading specialist [illegible]wer Columbia College points out:

> "Traditional and standardized reading tests measure a reader's response to a number of questions that are based on and derived from a reading passage. However, such tests are not measuring the ability of the reader to process the language itself, but merely the result of that processing which is assumed to have taken place in order to answer the questions posed."[1]

Insomuch as the passage chosen is representative of the textbook as a whole, the criterion standards will indicate the student's ability to read the book as a

---

[1]David McCarthy, Reading Levels of Vocational Student, (Mimeograph, Lower Columbia College, 1975) p. 1.

whole. Toward such a careful selection process Karen Spring, Central's Reading/ Curriculum Specialist, focused her technical expertise. From the required textbooks to be used by fall quarter classes in the test sample she chose from each ten pages at random; then, for each page she administered the Fry Readability Scale. The Fry Readability Scale gives a reliable indication of the grade level at which any particular passage is written. A passage was then chosen which reflected the most frequently occurring grade level of the ten passages.

The following Cloze criterion levels were used in this study: Independent Level -- 45% or more were correct -- score at this level means the student is probably able to read the passage on his own without too much trouble. Instructional Level -- 35-44% -- students on this level can probably handle the text so long as they receive some help from their instructor. Frustration Level -- below 35% -- below this criterion the student will probably find his textbook frustrating to read even with assistance. These criterion levels as described are well researched and suitable for community college textbooks.[2]

Turning now to the writing text, the problem of selecting a relevant and accurate test instrument was especially difficult. We needed a writing test that would be designed to measure competency in spelling, punctuation, capitalization, etc. -- in short basic grammar. However, we were also concerned with what we called intermediate and organizational errors (e.g. vague pronoun reference, faulty parallelism, unclear presentation of an idea, failure to develop a point, lack of connection between cause and effect relationships, etc.). While there are many standardized writing tests from which one can choose, few, if any, provide analysis of such organizational and intermediate errors. Consequently, we chose to take what

---

[2]John Bormuth, Personal Correspondance to Karen Spring (Smith), May 1974

seemed to be a simple but direct approach to the problem--we asked the students to write.

Students were given two short "stimulation" paragraphs and told to respond to one with three to five short paragraphs reflecting their feelings or opinions. In such a fashion, we hoped to get and did receive actual writing samples from students. It is upon these writing samples that certain observations and judgments about their ability to communicate via the written word have been made.

Finally, we wished to establish some index of a student's motivation toward his/her academic studies. We reviewed numerous tests ranging from self-concept scales to locus of control inventories. Most of these tests involved more time commitment on the part of the students than we could legitimately expect. As a workable compromise, we chose the Academic Motivation Scale, a subtest of the Comparative Guidance and Placement Program. The Academic Motivation Scale is based on the student's perception of his/her high school effort and a self-reporting of his/her study techniques. It has proved helpful in predicting college grades particularly for students in transfer programs. Although the scale is copyrighted by E.T.S., Seattle Central Community College received permission to use it in this pilot project free of charge. It has national norms and other corollary research materials which should be of assistance as this project continues through the year.

Selection of the Sample:

The student population of interest was identified as on-campus-day academic transfer. The research problem was to draw a sample that would be as representative as possible. Since no feasible way exists to randomly select students from that group, a decision was made to select that hour of the instructional day containing the most academic transfer classes. From the Course Master, it was determined

that more academic transfer courses (a total of 33) were offered at the 9 o'clock hour than any other time slot. Letters requesting participation went out to all 33 faculty members. The response and cooperation was excellent. All faculty members* agreed to rearrange their instructional schedule in order that the testing experience could be offered during the 9 o'clock hour Wednesday, September 24, 1975. All in all, the project involved 30 sections, four testing instruments and an opportunity to ask 852 students to volunteer 50 minutes of their time. Simple statistics, but a unique and unusual opportunity to gather valuable institutional data about a large segment of our student population.

Assignment of Testing Instruments

The C.G.P. Mathematics Test "D" is a 45 minute timed test. The writing and Cloze tests, which are open ended, normally take between 25 and 35 minutes. The motivation scale takes between 6-8 minutes to complete. In any case, it was clear that it would not be possible within one class period to administer all four tests to every student. Consequently, it was decided to randomly assign the writing tests, Cloze tests, and the math test to the 30 sections. It was felt that such a random assignment would provide a sufficient amount of time for the students to adequately respond to the testing instruments. Parenthetically, such a random assignment would be the best way to avoid biasing scores were one to assign tests to classes whose curriculum might correlate with the testing instruments (i.e. math to math, writing to English, etc.). The following graph indicates the number of sections assigned to each of the testing instruments, the number of students in those sections, the number of students taking the test and the percentage of the students responding to the test. Please note that given the length (45 minutes) of the

*Three sections turned out to be small independent study/project oriented courses seldom meeting as a group at any one time. They were not included in the study.

C.G.P. mathematic test the Academic Motivation Scale was administered to only those sections receiving either the writing test or the Cloze test (reading).

Figure 1

Test Instruments	Number of class Sections	Number of Students	Number of Test Taken	% of Response
1 Writing Exercise	11	323	189	58.5
2 Cloze Procedures	8	221	154	69.6
3 C.G.P. Math Test	11	308	141	45.7
Total	30	852	485	56.9
4 Academic Motivation	(1+2) 19	(1+2) 544	321	59.0

One of the more significant points about the research project is the percentage of students who chose to participate -- 56.9%. In fact, in sixteen of the thirty sections the percentage of student response was above 60%! It is fair to say that for three of the four indices this student sample represents a majority of academic transfer students in those 9:00 a.m. class sections. One word of caution as we move to the results; the results will tend to be liberal estimates. That is to say, was the percentage of student response to have equalled one hundred percent it is more than likely that the sample mean (average) would have been lower (e.g. students who have histories of poor test performance do not tend to take tests if those tests are optional). Still, the results of this study are based upon the majority of students in academic transfer classes at the 9 o'clock hour. To the extent that these students are representative of other transfer students at other periods of the day will be the degree to which any generalization about all academic transfer students at SCCC can be made.* The inductive leap must be made with caution.

* the process of collecting demographic data on this student sample has already begun and will be reported this spring.

The Results

Reading:

Cloze tests were administered in eight classes. Figure 2 is a summary of the results. Please note that two classes are not included in the aggregate profile. In class "G" a typographical error was found in the test itself and while its affect upon student performance was probably insignificant (vis-a-vis the test's readability) it qualifies and thus limits the reporting of those student scores. In class "H" the wrong Cloze test was administered.

Figure 2

Class	Class Size	Number of Tested	% Responding	Grade Level of ** Text Material	% at Frustration	% at Instructional	% at Independent	Average Score
A	2[illegible]	23	92.0	College	65.2	30.4	4.3	11.95
B	26	26	100.0	College +	61.5	15.3	23.0	17.53
C	40	27	67.5	College	33.3	37.0	29.6	19.18
D	17	11	64.7	9th	18.1	27.2	54.5	23.09
E	19	15	78.9	College +	20.0	6.6	73.3	24.26
F	24	14	58.3	8th	21.4	35.7	42.8	21.64
Σ or $\bar{X}$	151	116	76.8	12 +	41.3	25.8	32.7	19.60
G	32	31	96.8	College	96.7	3.2	0.0	9.58
H	38	7	18.4	College	42.8	28.5	28.5	19.00

Frustration Level = 0-17 correct
Instructional Level = 18-22 correct
Independent Level = 23-50 correct

** based upon the Fry Readability Scale

In reviewing this chart one must keep in mind that a Cloze test is simply a match between the student and the textbook required for a particular course. While Cloze test scores correlate closely to standardized achievement tests in

reading (e.g. correlations range from .68 to .83) it would be inappropriate to compare students in a Physics class with students in an English class. The point is that each textbook varies in its level of readability and the degree to which its vocabulary is more or less familiar to the individual student. Thus, the variability between classes regarding the percentage of student functioning at the frustration level is not unexpected. The great strength of a Cloze test procedure is the information it provides an individual instructor about the match (or mismatch) between his/her selected textbook and the reading ability of student in his/her class. In order to maximize this information individual reports have been sent to participating instructors. However, what do these Cloze tests tell us about our aggregated sample of 116 students? Encouragingly, we find that the mean or average score for the group is 19.6 -- comfortably within the interval defined as Instructional. Nevertheless, they also tell us that 41.3 percent of these same students received Cloze scores which placed them at the frustration level. In short, over 40 percent of the students sampled, on the basis of cloze test procedures, were found to be either unable to read their required textbook or can read them only with extreme difficulty.* It is also of interest to note that for two of the three sections achieving high mean scores (21+) the grade level of the required reading material was below 10 grade.

Mathematics

The Comparative Guidance and Placement Program's mathematics test "D" consists of computation and elementary algebra problems and is focused toward students who have studied algebra for one year. It is the middle difficulty test in the CGP program and roughly equivalent to the Cooperative Algebra I test presently used for student placement in Mathematics 099 and 101.

* How much such a problem may effect a student's grade or his/her performance in class is debatable. See Karen Spring's article in the Journal of Reading, Volume 9, No. 2, November, 1975, p. 131 - 136.

The C.G.P. mathematics test "D" is standardized and possesses national norms for community college students. Those percentile rankings were useful in the construction of the following table:

Figure 3

Class	Class Size	Number Tested	% Response	Average Score	Peer Percentile Rank	Liberal Arts Percentile Rank
I	37	2	5.4	29.00	...	...
J	32	17	53.1	36.18	19[1]	32
K	24	11	45.8	62.09	79[1]	92
L	26	18	69.2	35.39	NA	32
M	26	15	57.6	32.20	31[3]	22
N	23	15	65.2	42.73	32[1]	49
O	15	9	60.0	35.00	39[2]	32
P	36	23	63.8	34.52	NA	32
Q	25	25	100.0	51.76	51[1]	72
R	37	1	2.7	28.00	...	...
S	27	5	18.5	41.80	NA	46
Σor $\bar{x}$	308	141	45.7	40.83	NA	45

1. Science/Math
2. Fine Arts
3. Health

The math test was the one assessment instrument in this study that failed to achieve a fifty percent or majority student response, but clearly the lack of participation in three classes (I, R, and S) skewed the average. Still, it does seem important to recall a point made in the beginning of this report: if the percentage of response had been higher most likely the average test score for the total group would have been lower. Obviously, this is hypothesis and the reader may form his or her own. Nevertheless, on the basis of an N of 141 (45.7% of the total student enrollment in eleven sections), this sample of Seattle Central academic transfer students ranks in the 45th percentile on national norms.

Figure 3 also gives, where applicable, peer group percentile ranking - For example, class M, a health class, achieved a percentile ranking of 22 but when

compared to only students in health programs their ranking rose to the 31st. Certainly the most aberrant class average was recorded by class K, a two hundred level science class. The course is part of a curriculum sequence and thus has several prerequisites which affect student entry. A special computer run was performed to see what effect class K's deletion would have on the total group average. The result was a lower group mean (39.02 vs 40.83) and a different percentile ranking (38 vs 45). A case could and should be made to view these revised results as a more accurate representation of our student population since the typicalness of students in class K is certainly questionable.

Writing

The writing test was administered in eleven classes and valid samples were received from 189 students (58.5% of the enrolled students) the following table summarizes the results:

Figure 4

Class	Class Size	Number Tester	% Response	% 0-1	% 2-3	% 4-5	% 6	% 7	% 8
T	36	17	47.2	29.4	35.2	29.4	5.8		
U	33	21	63.6		14.3	47.6	33.3	4.7	
V	22	18	81.8		16.6	22.2	55.5	5.5	
W	24	10	41.6			50.5	20.0	30.0	
X	33	3	9.0		33.3	33.3		33.3	
Y	32	31	96.8	3.2	3.2	45.1	22.5	19.3	6.4
Z	27	12	44.4	16.6	16.6	50.0		8.3	8.3
AA	29	24	82.7	8.3	8.3	37.5	37.5	8.3	
Bb	29	15	51.9	13.3	33.3	46.6		6.6	
CC	28	13	46.4	7.7	46.1	38.4		7.7	
DD	30	25	83.3	4.0	24.0	48.0	20.0	4.0	
Σ or $\bar{X}$	323	189	58.5	7.4	18.5	41.2	19.0	11.1	2.6

0 - 1 = Incomprehensible (i.e. confused expression, words missing, incomplete sentences, gross grammatical errors)

2 - 3 = No main idea discernible. The paper possesses many and basic within sentence errors.

4 - 5 = The main idea is only adequately communicated and the paper possesses many technical problems

6 = An acceptable level for academic transfer. Main idea is well and clearly developed but some technical problems exist

7 = A good solid performance

8 = An excellent piece of writing in all ways: clear, precise, interesting, strong vocabulary

While any numerical scale used to evaluate student writing samples will be somewhat artificial, it is important to note that these numbers represent a careful assessment of each paper. A competent English teacher with wide experience in correcting themes was chosen to correct them. She used as a guide a criterion check sheet developed by Karen Spring and modified by the feedback from the English department. In point of fact, the assignment of numerical values to the papers was not the result of a cursory reading but rather the second step in a rather careful process in which each individual paper was marked for spelling, grammar, punctuation and organizational and content quality.

To summarize and review Figure 4, it should be emphasized that the interval values from 0 to 3 identify papers which are totally unacceptable as college level writing. Taken together, this represents 25.9% of this student sample. In addition, the writing samples evaluated as 4's or 5's, while communicating a main idea, were so severely flawed by grammatical and organizational errors as to not qualify as college level material either. Thus, the implications are that 67% of the students sampled by this study are not writing at a level acceptable for college transfer. This may be the most sobering piece of information to be gathered by this research project.

Motivation

Again, please recall that the selection of E.T.S's Academic Motivation Scale was a working compromise and no pretence is made to its validity as a true measure of a student's motivation level. As this research project continues through the year other "faculty reports" will be issued and we expect to have some data on its predictive validity. In any case in this self-report inventory our student sample of 321 achieved a mean score of 48.43. In more meaningful terms this score is equivalent to the 49th percentile on the Comparative Guidance and Placement Program's national norms. In essence, our student sample seems to be no less motivated (on the basis of Academic Motivation Scale) than other average community college students across the nation.

Summary

This first phase of the Student Assessment Project has attempted to establish a reliable index of the level of educational preparation of on-campus-day transfer students. The results of this study tend to validate faculty observations regarding the lack of adequate educational preparation students often demonstrate in class. On the basis of the student data presented in this report a large number of Seattle Central Community College students in academic transfer classes lack competency in basic skills.

This research project will follow this sample of 485 students for the entire academic year. Our goal will be to identify possible relationships between the variables (i.e. age, test scores, motivation, program patterns, years between formal educational experience, etc.) and performance (i.e. grades, withdrawal rates, etc). As has been mentioned, further "faculty reports" will be issued. It is sincerely hoped that such information can delimit areas of institutional concern and initiate institutional responses which benefit students.

UNIVERSITY OF CALIF.
LOS ANGELES

MAR 5 1976

CLEARINGHOUSE FOR
JUNIOR COLLEGES

RV:ik